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ITEMS OF INTEREST.

VOL. XI.

PHILADELPHIA, FEBRUARY, 1889.

No. 2.

Notes from the Profession.

HASKELL'S DEFORMITY.*

DR. EUGINE S. TALBOT.

The following is copied, by consent of the author, from an interesting series of papers in the *Cosmos*, on the "Etiology of Irregularities of the Jaws and Teeth," showing much original research and theory, and profusely illustrated:

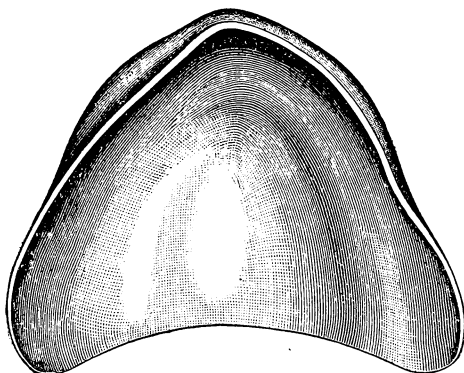
When we examine models of the upper maxilla after absorption of the alveolar process has taken place, we observe that in the cuspid and bicuspid region, high above the alveolar border, a marked depression exists on either side. Fig. 1 shows a base-plate which has been formed over such a model. The plate is more depressed at the left than at the right side. This peculiar deformity is familiar to the operator who arranges teeth and waxes up plates for the purpose of restoring the contour of the face. On closer inspection of the model it will be seen that there is an asymmetry of the lateral halves of the maxillary bones. With Dr. Haskell's assistance I have examined 298 models, finding 268 out of the number with marked depression on the left side, and 24 with the depression on the right side, and only six cases showed both sides to be alike. It is remarkable that so large a proportion of the cases of this deformity should be found existing on the left side.

Dr. Haskell says, "For many years I have observed a marked difference between the right and left sides of models of both the upper and lower jaws, but more especially noticeable in the upper jaw. It is not so apparent on a casual glance at the model, for it is not so much in the alveolar process, which is often symmetrical, as in the maxillary bones. But a plate formed of wax on a model from an impression taken high over the region of the cuspids (as ought always to be done)

* I have named this deformity "Haskell's Deformity," for the reason that Dr. Haskell called the attention of the profession to this peculiar condition of the maxillary bone years ago, personally and through the journals, and says he has found but one dentist who had observed it.

shows at once the depression of the left side, which occurs invariably in 95 per cent of cases. The difference becomes apparent in arranging artificial teeth. Every dentist of experience must have observed that greater length of teeth and gums is required on the left side than on the right. How often it is seen that the left side of the lip rises higher, in talking and laughing, than the right side. The difference in the two sides of the lower jaw does not occur as often, but is apparent in the

FIG 1.



divergence of the left side from a line drawn through the centre of the model, so that the posterior teeth on that side must be set farther in on the plate."

Dr. Haskell has, during the past twelve years, frequently called my attention to this peculiar deformity of the jaw. My own observation of models and patients has also indicated the probability that the majority of deformities of this nature exist on the left side. The theory advanced by Dr. Gallippe, that, because we are right handed by inheritance, we masticate on the right side, does not account for this deformity, since the left alveolar process is moved out of its natural position and is carried some distance toward the left.

The following theory for this deformity suggests itself as worthy of our consideration: Man, like some other members of the animal kingdom, normally moves the lower jaws from right to left in mastication. The constant friction of the lower teeth against the upper carries the upper arch with the alveolar process toward the left. By pressing the index finger over the cuspid and bicuspid roots, above the alveolar process, we shall find that the majority of mouths contain teeth with their roots standing out more prominently on the right side than on the left side. The right upper dental arch, like the arch of a bridge, resists such inward force because of the lateral contact of its teeth. On the contrary, the left upper dental arch may thus be carried

slightly outward. The limited lateral motion during occlusion prevents the teeth and alveolar process from being carried farther. The cuspid tooth may be prevented from being carried in as far as it otherwise would be owing to the lateral motion of the lower jaw to the left. The alveolar process is thus carried beyond the border of the maxillary bones. After the teeth have been removed, absorption of the alveolar process occurs, leaving only the alveolar ridge. The ridge then overhangs the maxillary bone, thus producing a depression on the left side. This is the reason that, in arranging artificial dentures in many cases, the teeth are carried over the alveolar border farther than on the right side to obtain proper articulation with the natural teeth on the lower jaw.

On examining the model on which the base-plate was formed, it will be seen that both the right and left *alveolar borders* are symmetrical. The alveolar border in most cases indicates the contour of the teeth when in position.

CLASPS.

DR. W. E. DRISCOLL, MANATEE, FLA.

There seems to be room for little doubt that a very large proportion of dental practitioners fall short of a full appreciation of the use of clasps to retain artificial teeth firmly in position. I cannot now recall any exposition or description of the principles involved in their successful application.

A clasp must be such in fact: That is to say, if pressure is brought to bear on one side of a tooth, there must be compensatory support on the opposite side. When a clasp extends along the buccal aspect of a molar or bicuspid, and presses the tooth inward, there must be perfect support on the palatal or lingual side by the plate or or another clasp, otherwise the tooth will move and the clasp will become useless. A tooth should not be clasped that has lost its antagonist, unless we provide a new antagonist, or the action of the clasps would tend to draw the tooth from the alveolus.

Many have become discouraged in their efforts to use clasps because in bell shaped teeth, or teeth that diverge or converge, the clasps, after passing over the grinding surface are loose when the plate passes into position, or where they press only on one side of such teeth—a condition that will not give satisfaction. To remedy or avoid this result (where teeth are bell shaped or lean in different directions), the clasps must be constructed so that they will press on available points near the grinding surface. A little intelligent study of the cast will indicate where these points of pressure may be so that the plate will be held firmly when resting on the gum or palate. Of

course there will be points on bell shaped or leaning teeth where the plate cannot touch since the necessary cutting away of material to let it pass over the crowns will leave spaces between the necks of the teeth and the portion of the plate that fits to the gum. Hence it is necessary sometimes to extend the plate on the palatal aspect of a tooth almost to the grinding edge so as to secure support for the tooth while the clasp is pressing on the outside. Where teeth are so shaped that clasps have a tendency to slip off there is always some remedy. In an inferior cuspid, a firm hold may be secured by carrying the clasp around the labial side and displacing the free point of gum extending between the cuspid and lateral incisor. Where a rubber clasp would be exposed to view, one of gold can be made of heavy wire and made to fit so closely to the gum as to scarcely attract attention. Sometimes a few front teeth are to be replaced, and no vacancy exists far enough back among the upper teeth so that clasps will be out of sight. Should there be a loss of lower back teeth then a clasp or two may pass over the grinding surface of the teeth immediately over the vacancy in the lower teeth, and far enough upward on the buccal surfaces to afford strong attachment where the plate might otherwise be very loose. To avoid spreading the teeth apart where the clasp passes to the outside it is best to turn the point of the clasp backward so it will press about the middle of the buccal surface of only one tooth. Here again gold wire is very appropriate, as it will be less in the way than rubber. But even the latter will be found far better than no clasp. Of course, where time will permit, room for clasps, made of gold or platina plate, can be secured by wedging, or other means of separating, and will repay all trouble, being so much more satisfactory to the wearer than if retained by atmospheric pressure alone.

No partial lower set of teeth should ever be made without clasps, though many dentists never use them under any circumstances.

The successful use of clasps makes plaster impressions almost a necessity. The "drawing" of flexible material like wax or modeling compound in impressions for partial sets is very confusing and inaccurate. For partial lower sets there is often opportunely presented to rest the plate in a large measure on the remaining natural teeth so as to relieve the unpleasant pressure of the narrow plate on what is often a sensitive lower gum. The posterior half of a tipping molar's grinding surface offers a good "rest" for one end of the plate if clasps support the tooth in a rational way. The depression in the crowns of bicuspid and the slanting lingual surface of inferior cuspids will help to save pressure on the gum if the tooth is supported on the outside with a strong clasp. This article is little more than suggestive of the possibilities of the subject.

CARIES.

(Editorial in Ohio Journal Dental Science.)

We have been told that not the microbes, but their waste materials, induce caries, and that the result from microbic action is lactic acid, and that artificial caries has been induced by this acid. But does not this idea refer to dental decay as a unit? Chemical action is definite in nature, and a reagent is needed to produce each reaction. Are constipation and diarrhea less alike than black and white to decay? For over thirty years we have not doubted that one variety of decay may be and is caused by lactic acid.

But is lactic acid the "waste material" of the microbes? Or is the acid caused by chemical action on the waste materials? The waste matter of the horse and similar animals, contains no nitric acid, but by chemical action on it, this acid is often formed.

It has been taken for granted, by at least one taking part in these recent discussions, that acids can act only on the lime salts of the teeth, and not on their organic substance. But do not nitric, acetic, and lactic acids act vigorously on organic animal substance? It is evident that what is commonly called erosion is caused by an agent acting with almost equal promptness on the organic and inorganic materials of the tooth, if it is at all caused by chemical action.

It has been recently claimed, too, that the reagents have nothing to do with causing the special colors in the several varieties of decay. This is plausible; but is it true? If the lime salts are dissolved out of dentine or bone, the organic material may be left in its natural color, or it may be stained. If unstained at the time, it is likely to change color gradually as acted on by agents incidentally brought into contact with it. The leaves of the forest fade and fall with colors many and varied. In the main these leaves are composed of carbon, oxygen and hydrogen. They are gradually acted on by oxygen, and as carbon burns slower than the other constituents, it is left after they are gone. And this explains the gradual blackening process, as free carbon not crystallized is black.

If we take a portion of dentine and dissolve its lime salts in hydrochloric acid, the organic substance will be left in nearly its natural color, but by time and exposure will become darkened. And all dentists are familiar with a form of dental decay in which the lime salts are dissolved away, while the organic substance is little, if at all, reduced in bulk. In process of time this darkens as described increases, but it never gets to look like "black decay."

Lately one of our friends has thoughtlessly told us that all the acids are capable of corroding the teeth; but he didn't intend to include tannic nor carbonic acid, nor a great many others.

If these lines were intended for criticism or review, we would have gathered up our exchanges and made literal quotations, but as friendly hints we don't even wish every reader to know who has made the suggestions referred to. Let the researches go on, and let all encourage them—even those who cannot aid them.

CAPPING NERVES.

DR. E. R. MULLETT, CLINTON.

I am quite sure that a large majority of all our patients come to us, only after more or less suffering from toothache, so that we are continually being called on to decide what we will do. There are three things which may be done, perhaps: Shall we cap this nerve? or shall we destroy it? or shall we extract the tooth? These are the questions which we are called on every day to decide. Sometimes it is exceedingly difficult to determine which is best; but then, the patient consenting, it is better, if the circumstances are reasonably favorable, to adopt the milder plan and treat the pulp if yet alive; or if already dead, to treat the tooth. If we fail in the first to quiet the irritated pulp, and bring it to a healthy condition suitable for capping, we can devitalize it; and should we fail in the second, treating the tooth for dead pulp or abscess, we may extract as a last resort. In some cases, it is wise to adopt the last at once; but not simply because the patient wants the offending tooth out, but because the indications are unfavorable to a successful treatment.

I shall assume in the absence of specific proof to the contrary, that it is found necessary to extract a greater per cent of those teeth whose roots have been filled than of those whose nerves have been properly capped. I think it is so in my own practice, and from what I see of the work of others I conclude this is generally true. If then teeth are more liable to abscess after the nerves are dead, and the roots filled, than when the pulp is capped; then capping is the better practice. Then teeth with live pulps do not discolor, as do teeth whose pulps are dead. You all do know that we can readily distinguish a dead tooth by its color.

If we cap the nerve, and the nerve lives, the tooth retains its natural color, and it also retains its natural normal feeling, not being subject to annoying pains every time the weather is a little damp or chilly, nor does it have an abscess from which disgusting pus is continually discharged. It looks and feels like its fellows, and should the pulp die, we still have the chance of trying to save the tooth by filling the roots. In deciding to cap the nerve, we must be very careful in our diagnosis. We must know that the pulp is alive and well. It is not difficult to find out if the pulp is alive. We will trim away

the frail overhanging edges of enamel, so as to give quite ready access to the cavity of decay, then carefully remove the debris, and rinse the cavity with warm water. Very likely the nerve is not exposed; we cannot see it. With keen edged excavators we begin near the walls and scrape away the softened dentine, getting the instrument's edge under the dentine near the enamel wall and pulling up the softened dentine in layers until we either come to pretty firm dentine, or have reached and exposed the pulp. If we have found the dentine where it joins the enamel quite sensitive, we will take this as evidence of a living pulp, though it is best to corroborate it. If there is little or no sensitiveness at this line, and the tooth has been aching, and the dentine over the pulp is quite soft, we ought to remove it carefully, till we nearly or quite reach the pulp chamber. Now we can easily ascertain if the pulp is alive; but is it well? This is all important. Possibly when we have made a small opening into the pulp chamber, pus makes its appearance. There may be only the least bit of it, or it may flow out and fill the cavity of decay and be mingled with blood. If the tooth has reached this last condition I should regard it as unfavorable for capping. But if on opening to the pulp we find it normally sensitive and, on being touched with a very sharp-pointed instrument, bright red blood flows, I should regard it as a favorable case for capping, and would proceed to cap at once. I would then trim the edges of enamel, secure my anchorage and undercut, remove so much of the softened dentine as seemed best, rinse the cavity with warm water, or if the rubber dam was in place, remove the chips with the warm air syringe and camel-hair brush. Then gently wipe the cavity with a small bit of punk dipt in creosote, leaving it in a few minutes. Get your cement ready, select just the instrument you will want for mixing and placing the cement in the cavity. Try the instrument with which you expect to place the cement in the cavity, to know that it is the right shape, and will surely answer the purpose. Have everything you want ready. Now mix a small quantity of some good oxyphosphate quite thin, and quickly apply enough to somewhat more than cover the exposed part of the pulp. Now do be careful, but do not get excited or nervous, or in a hurry, tho you must be quick. Mix the cement thin, take a little on a small instrument, which you know by previous trial will reach just the spot where you propose to place it, manage to get the cement to stick to the dentine close to the exposed pulp, then, by a gentle vibratory motion, shake the cement into position, covering the exposed pulp, and give it a minute or two to harden a little. Don't push on it with anything, but just coax it to flow or run like thick batter would, over the pulp; when this has become somewhat stiff it may be covered with cement mixt thicker, and sufficient added to fill

the cavity to a depth sufficient to protect the pulp from sudden changes of temperature. Sometimes cavities are so difficult to reach that we cannot place the cement without its coming in contact with the lateral walls of the cavity. In some such cases I fill the cavity nearly full of cement, then trim away the surplus. While the cement is hardening we can trim it to the size and shape we want it to be.

Great care is necessary in trimming not to dislodge the cement cap. I sometimes trim it away near the cervical margin in proximal cavities, and along the lateral walls without disturbing it near the grinding surface. Then introduce the filling till the cavity is about half filled, so as to bind the cement in place, and then trim away any surplus cement near the grinding surface and finish the filling. If the pulp is not in a state of health, it should be brought to such a condition before capping. If it is simply congested without any disintegration, slightly wound it with a very sharp, suitably shaped instrument and cover it closely with cotton dipt in listerine, or place a very small pellet of cotton over it, wet with oil of cloves with a trifle of morphine in it, and let it rest two or three days.

Do not pack the cotton tightly into the cavity, but fill it in more against the lateral walls, so as to avoid pressing on the pulp. I do not think cotton dipt in sandarac is as good for the purpose, as without the sandarac, because the hard lump of cotton and varnish is more likely to injure the pulp in the act of mastication than is a soft wad of cotton.

When the patient returns, inquire what the symptoms have been, remove the dressing and dry the cavity with punk, and examine the pulp very carefully. If it does not bleed, nor discharge pus, nor a watery fluid, but has a smooth, pinkish healthy looking surface and has been pretty comfortable, cap it at once if you can. If the other conditions are present further treatment is necessary.

In those cases where the nerve is not exposed, and such as require but a small amount of capping, I frequently use a piece of quill cut to the shape and size indicated. Sometimes I place a small piece of gutta-percha on the concave surface of the quill cap, take the cap by its edge with pliers, warm it enough to sufficiently soften the gutta-percha, and immediately place it in the cavity, gutta-percha side next the nerve, of course. Sometimes I mix and place a small amount of the cement on the piece of quill and quickly bring it to place in the cavity. I very frequently place a piece of quill in the cavity right over the nerve (when the nerve is not exposed) without either gutta-percha or cement and build my filling over it.—*Iowa Dental Society.*

First good work, then good prices. Good prices do not make good work, but good work is sure to bring good prices.

ABSCESS OF THE ANTRUM.

DR. E. D. BROWER, LE MARS, IOWA.

The antrum or maxillary sinus is a large cavity in the body of the superior maxilla, lying above the molar teeth and below the orbital plate, lined in the fresh state by mucous membrane, and communicating with the middle meatus of the nose. The relations of the antrum to the teeth vary extremely; it may extend so as to be in immediate relation to all of the teeth of the true maxilla, or may be so contracted as to correspond with only two or three of the central ones; occasionally a root or roots of the first molar extend into the cavity, free of any bony covering and merely overlaid by the mucous membrane lining the sinus; the orifice which opens into the middle meatus varies from the size of a probe to that of the end of the little finger.

The antrum does not attain its full size until after the age of puberty, tho it makes its appearance as early as the fifth month of fetal life, and is larger in the male than the female. Capacity from 1 to 8 drams; average $2\frac{1}{2}$ drams.

There may be an abscess. It is generally an extension of an abscess on the root of a tooth. There is a dull aching pain in the cheek, with heat, redness and fullness of the soft parts externally; there may at first be purulent discharge from the nose, but the swelling of the mucous membrane soon closes the sinus; there is now throbbing, rigors, fever, expansion of the jaw, elevation of the molar bones, projection of the molar teeth, depression of the arch of the palate bone; the finger seldom fails to detect the fluctuation.

Treatment.—Remove the tooth that seems to be the cause, and make an opening or enlarge the opening sufficiently to give free exit to the pus in the antrum; if there is no carious tooth, extract the first molar. When the antrum is opened wash it thoroughly with warm water, followed by listerine or solution of carbolic acid.

The entrance of food must be prevented, and the passage into the nose opened and kept open. The extraction of the offending tooth is usually all that is necessary if of recent occurrence, but others need farther treatment. To illustrate

Case 1st.—April 9th, 1885, Mrs. L., aged 60 years, came to me. I extracted the only remaining tooth, the upper right molar. May 23d, I inserted a rubber plate. I noticed that the gum had not healed; but I sent the lady away advising her to return if there was any more trouble. Patient, who lived in the country, returned in two weeks with teeth in her pocket, and said: "Dr., I cannot wear them; they fairly pull the side of my head off," and at the same time showing all symptoms of antral abscess. On examination I found an opening from the socket of the molar into the antrum, and, inquiring, learned

that about 20 years ago she had similar trouble in that side of her head, with a beating in her ear. That troubled her about a year, and she suffered some by taking cold.

I enlarged the opening, and syringed with a solution of carbolic acid, and living at such a distance that she could not call often, I gave her a solution with instructions. One month later she returned wearing her plate with comfort, the opening having healed completely.

Case 2d.—July 25th, 1885, one Mr. R., aged 50, had had the left upper lateral incisor extracted, his face being slightly swollen, but found no relief. When I first saw him, his nose was considerably swollen, and the left incisor loose, which I extracted. Next day he called in, and to my surprise the cuspid and the bicuspid were loose. He said he got wet going home in the rain the day before. From the bicuspid I found an opening into the antrum. I syringed the cavity with carbolized water (forty drops to the pint), and left him in the care of his physician, while I was attending the American Dental Association in Minneapolis. During that time his physician extracted the second bicuspid, and the cavity had been syringed but twice up to August 14th, when he came to me again, saying, "I guess that face is all right." But I found pus oozing out of all the sockets of the teeth extracted and a hard lump still at the root of the nose. I syringed carefully and found the alveolar process being absorbed and quite loose. August 15th, found pus discharging freely. Removed all the process from the median line to the first molar, extending to and including the floor of the antrum. I then gave him a syringe and carbolized water to wash the cavity. September 2d, the antrum seemed to be all right. Gums looked healthy, except one opening. On probing, found it running toward the nose. Syringing the cavity with water I found an opening for the fluids in the left nostril. He said the left central felt sore. September 5th, found the right lateral quite sore, and both lateral and central somewhat loose, so I extracted both. Gave him a solution of listerine and distilled water. September 10th, the abscess was healing rapidly. Complete recovery in three months.

Case 3.—March 6th, 1887, Mrs. C. came to have a tooth extracted; she had trouble in the left antrum. I extracted the tooth, a first molar, which was followed by a copious discharge of pus. She said she had had trouble with that side of her face for six months, and described all the symptoms of antral abscess. I syringed the cavity with diluted listerine once a week. The fifth week the opening was healed up, and she said there was no pain or soreness on that side of her face. May 1st, there were no symptoms of disease. I consider this the most remarkable case I ever had.

Case 4th.—A young man, about 25, came to me in October, 1886,

to have the roots of the left superior first molar extracted. I took them without any trouble and handed him some water. He, leaning over the spittoon, commenced to wash his mouth, and to his surprise the water came out of his nose. He called my attention to it and described the usual symptoms of antral abscess. I syringed the cavity with listerine once a week for about two months; at that time I could not detect any inflammation and allowed the opening to heal up. April 15th, I examined the patient and found complete recovery.

I have found listerine the most pleasant and efficient dressing for mild cases, and even for the most aggravated cases I have had, listerine was the only dressing I used.

Owing to the many different forms of antral abscess, it is impossible to give particular treatment.—*Iowa Trans.*

LABORATORY WORK—ABSTRACT.

DR. GEORGE W. MELOTTE, ITHACA, N. Y.

Operative dentistry has received a much larger share of attention of late than prosthetics. Recent developments have given us new forms of dentures constructed of porcelain, gold, and platina.

Encouragement must be given to those who are naturally endowed with that high order of genius necessary to become skilful workers in gold and other metals. The number that have attained distinction and are entitled to be called masters, capable of teaching this highest art in dentistry, are so few that the young men who are preparing to join our ranks are perplexed to know how to obtain the knowledge and practice necessary to meet its demands.

Among the implements of the laboratory there are none more important than the blow-pipe. To become skilled in the delicate handling of this instrument in the operation of soldering requires much practice. Many failures in burning of caps and bands of gold, as well as breaking of porcelain, are the result of its injudicious use in applying too great heat to exposed surfaces of gold, raising it to a degree that porcelain teeth cannot bear however well they may have been made. I have an improved form of gas blow-pipe to be used by connecting it at the valve, by means of rubber tubing, with a jet of illuminating gas; the finger on the valve regulates and controls perfectly the supply of gas. When not in immediate use the valve reduces the flame, avoiding waste of gas or necessity of relighting. This pipe can be used effectively with the mouth or greater power may be obtained by using the bellows.

A "sure cure" for styë on the eye lid, is fifteen grains boric acid to an ounce of water applied with brush three times daily.

THE PAST AND THE PRESENT IN FILLING TEETH.

DR. A. O. HUNT, IOWA CITY.

We take considerable credit to ourselves for gaining so much artistic skill in operations in the mouth. We seem to have lost sight of the fact that men who made no pretense to that skill forty or fifty years ago saved teeth a longer time than we do at present. We question their methods; we have also mostly discarded their material. The method to me seems a very important factor in the case, as well as the material; the method is more than anything else.

That it is best to restore the contour of the tooth as nearly as possible, must be taken with some allowance. The word "nature" or "natural" as applied to the teeth of Americans is unmeaning entirely. We have had so many types and forms of teeth, and such a mixture of types of teeth in the mouth, that we do not have any that we can depend on. The method of the older operators was to cut directly down between the teeth with a separating file, leaving two flat surfaces on the proximal sides of the teeth with a space as large as the thickness of the file used. I have seen fillings placed in teeth prepared this way (both of gold and amalgam), that have been in use for many years (from twenty to forty). The teeth were nicely preserved, though not pleasing to look at, as the beauty of the tooth had been destroyed by the extreme cutting away of the tooth tissue. This represents one extreme. The gold used in these operations was the non-cohesive foil, the amalgam either an alloy with copper alone, or with silver and tin with a large per cent of copper. Many patients whose teeth were filled, where this method was employed, complained seriously of the food pressing down between the teeth during the act of mastication and injuring the gums, while others experienced no discomfort from this cause.

In the course of time there came another form of gold into the hands of the dentists, the cohesive form. With this gold it was possible to restore the lost parts of a tooth by a full contour, whether lost by decay or cut away to get good margins. This led to another extreme, sometimes going beyond the original form.

I would like to say right here that I have seen teeth filled with gold or amalgam, that have been used for many years. I have seen some that have been in use for thirty or forty years and are still preserving the teeth. Most of the gold used was so soft that you could force an excavator into it almost anywhere; but I do not believe those patients had any better teeth nor worse teeth to operate on than we have. I have been satisfied of that for some years.

Following this era was another plan, leading to the other extreme. was going to say that the worst criticism on the last method is that

food may pass down between the teeth, be uncomfortable, and injure the gums during the process of mastication ; but at all other times it was very pleasant and very comfortable. Two or three weeks ago I saw a mouth of this character where this plan had been followed out for a series of years by one of the oldest class of operators. I asked the patient if she had had this difficulty. She said that she had never had and discomfort of the kind mentioned. So far as we know, whatever the theory, whether the germ or the acid theory, we all agree on this point, that the tooth is destroyed by a chemical process in some way ; one cause at least is the lodgement of food in the interspaces, and its decomposition there. It seems to me it would be very bad practice indeed to restore that condition in any mouth which was favorable to decay. We should avoid that just as far as we can consistently with the appearance of the tooth, and also leave as much as possible of the masticating surface. An operator must vary each case according to the conditions that he finds in the mouth. Many bicuspid have a point of contact on the proximal surface at the grinding third and comparatively a free space elsewhere. This is the general form of teeth ; but you find mouths where the bicuspid and molars will be crowded so closely that they will be flattened at the point of contact and are in close contact along the entire proximal surface. The beginning of decay is not usually down at the gum line. It is in almost every case found either at the point of contact or a little above or below it. If you follow out the plan of extreme contours, it is objectionable, and will not save the teeth, because it presents the same conditions that were there originally. Now there is a happy medium between these two methods. If the space should be opened from the line or point of contact to the cervo-lingual corner, then a slight motion like a sucking motion would remove any little particles that may have been lodged there, which would not be removed by a tooth pick or brush. We should so arrange it that the slightest effort on the part of a person will remove these particles, then certainly something is gained. Enamel should never be left in contact if you can prevent it. Take a central or lateral incisor for experiment. Preserve the labial side of the tooth and grind away toward the cervo-lingual corner with a sand paper disk till you just avoid cutting through the enamel. You will find a space on the proximal side of this tooth that is almost flat, it may be a little convex, but it will be nearly flat. Indeed, your cavity, which at the beginning had a thin lingual wall, now presents only an oval cavity on a flat or convex surface. Instead of having to depend on the narrow edge, you will find your filling can be placed, in most cases, as in a simple cavity. If it is nicely polished and finished to the form and shape of the tooth

as you have made it, food, instead of crowding between the teeth, will crowd toward the oval cavity. Another objection to the full contour method is that when food does crowd down between the teeth, out to the buccal side, which it will do, it will be held there by the muscles of the cheek. By any ordinary motion of the parts of the mouth you cannot remove it. It is only possible to get it out by mechanical means. I have in my own mouth both of these conditions while between the cuspid and bicuspid, a motion like a sucking motion will remove it without any difficulty; in the very next space, it is impossible for me to remove food without mechanical force. By shaping the tooth in this way from the point of contact and leaving it wider open on the lingual side, but close to the grinding surface, the crowns being left nearly the natural shape, but at the same time making an inclined plane toward the gum, not straight down, but toward the lingual cervical corner of the teeth, it is not possible for food to lodge in such a space, and a slight motion will free it. We will not have many germs produced in a space of that kind, where every slight motion of the tissues tends to keep it clean, whether it be germ or acid, is immaterial. We must protect our work and not depend on our patients to do it for us. Certainly the experience of the past has given abundant evidence that the older methods saved more teeth in proportion than the newer ones, at least saved them for a longer time.—*Iowa Trans.*

Patents.—Dentists are divided into two parties, one for maintaining inviolate the present code of ethics, and the other for reforming it. The conservative party is comprised chiefly of men of the old school, men to whom professional courtesy is of higher importance than silver certificates. Most of the reformers are young men who prefer dollars to doughnuts. The two elements are at war on the subject of the patentability of modern inventions in dental surgery. The conservatives contend that under the code all inventions are made for the good of humanity; that patents restrict the use of inventions, and, consequently, humanity suffers. The reformers believe that the laborer is worthy of his hire; that if a dentist spends ten years in perfecting an invention, he is entitled to all he can make out of it. The name of Bonwill occurs often in the discussions on the subject. He is a reformer of the reformers. The little machine that stands beside the chair of every dentist in Christendom is mainly the creation of his inventive genius, and he has reaped the liberal reward of \$60,000 from the patent. Yet no one can say that he has not benefited humanity.—*N. Y. Tribune.*

THE MAN WHO FAINTED—SOME ASPECTS OF MEDICINE.

Ten days ago a young man called on a well-known dentist in Chicago, and after several painful operations was persuaded to part with two of his wisdom teeth. He quailed under the fear of torture, but refused to take gas. The teeth were extracted and he went about his business.

At six o'clock in the afternoon of the same day the young man sat down to dine in Nash & Crook's restaurant in Park Place. He had taken one mouthful of food when he fainted. His head fell forward in his plate and lay there for more than two minutes without attracting the attention of a single guest or waiter. When he regained consciousness and sat up perspiration streamed from his forehead and trickled down his cheeks. He looked at his watch, took a sip or two of coffee, paid his bill, and left the house, staggering from weakness. Returning to his office, he worked there for five hours, and started for home about midnight with a ravenous appetite, which he determined to satisfy with an oyster stew at O'Neill's. No sooner had he seated himself at the table than he went off into another faint. As on the previous occasion, he escaped notice. The stew was served in due time, and he disposed of it and went home.

Being unused to the sensation of fainting, the young man concluded to see a physician. Armed with a letter of introduction, he called next morning on a distinguished specialist, who lives on a fashionable street near Fifth Avenue, and as time was precious, he began to state his case without waiting for inquiries. When he described the first fainting scene the doctor checked him and refused to listen further.

"I can have nothing to do with fainting patients," the specialist said; "they are not in my line. To go into your case would require more study than I am disposed to give it, and I must positively decline to take it up. I treat skin diseases. People don't faint with their skin, they faint with their brain. Go to some doctor who makes a specialty of brain troubles."

With many profuse apologies, the patient withdrew and went in search of a brain specialist. He found one not far away, and retold his story, bringing in every incident of the day. A long examination of his heart followed, and many pertinent questions concerning his past life were put and answered. Then the doctor wrote a prescription, charging \$20 for his pains, and showed the patient how to reach the street. With his hand on the door-knob, he turned to deliver a parting admonition.

"Perhaps you smoke too much," he remarked. "I should suggest a more limited use of the weed for awhile. It sometimes—"

"I don't smoke, doctor; never did in my life," was the shocking reply. The doctor caught his breath.

"Possibly you indulge a little freely at times in the use of stimulants. An excess in that direction often causes affections of the heart and brain. I think—"

"Don't drink a drop, doctor; never did in my life." Another facer.

"Ah! Then I should recommend a glass of light wine at each meal. Your heart needs strengthening, as you are aware, and a little stimulant will do you good. Abstinence not infrequently produces the same troubles as excessive indulgence. Oh—er—by the way, did the dentist on whom you called yesterday give you gas? That may account for your—"

"He did not, doctor. I refused to take gas."

"Ah, indeed? Well—er—good-morning."

Another visit to the dentist was made next day, and the occurrences of the two previous days were recounted.

"It's a precious lucky thing for me," said the dentist, "that you didn't take gas. If you had, I should have been obliged to bear the blame for your fainting. Did the physician who examined you inquire if you took gas?"

"He did."

"I knew it. They always try to corner us that way, to hide their own ignorance. I have made a narrow escape."

The prescription of the brain specialist was written on a blank form, which bore the printed name and business address of a druggist on Thirty-fourth street. This was not meant as an indorsement of that particular druggist. It is the custom of all compounders of prescriptions to keep the medical profession supplied with pads of blank forms bearing their advertisement. There are tricks in all trades. In attracting public attention the druggist is not far behind the retail dry goods man.—*Western Dental Journal*.

Gutta-Percha.—Dr. J. L. Williams, of Boston, Mass., in a letter to the Odontological Society of New York, says of gutta-percha: "For many years I have made *water-tight* gutta-percha fillings by first varnishing the *dried* cavities with a thin solution of resin (common 'rosin') in chloroform or chloric ether." We think gutta-percha makes a water-tight filling, but if the filling is water-tight only where the gutta-percha is used in connection with some varnish or resin, then it is not to the gutta-percha, but to the resin or varnish, that the water-tightness is due.—*Western Dental Journal*.

LEGAL STATUS OF DENTISTS.

DANIEL NASON, ESQ., NEW YORK.

[Concluded from page 18.]

Fraud on the part of a dentist will vitiate any contract he may make with a patient. Some years ago one Simpson gave a bill of exchange for over £200 to one Davis, a dentist, the bargain being as was alleged by the latter, that he should during the former's whole life attend to his teeth, and supply him with new ones from time to time; he also alleged that the price of a set of teeth varied from £30 to £50. The body of the bill was in the dentist's handwriting; the only part, if any, in the handwriting of the patient, was the signature. It was said to have been given in the dentist's house without the presence of a third person. Simpson died before the bill became due and it did not appear that anyone had ever heard of it before his death; nor did it appear that the contract was in writing. Other circumstances connected with the case were, that after Simpson's death Davis spoke and wrote inaccurately on the subject, and had placed the bill in the hands of a creditor of his own to put it in suit. Meanwhile Simpson's executors began a proceeding in equity for the purpose of impeaching the bill for fraud and praying that it might be delivered up to them. The Vice-Chancellor thought that it was impossible for a reasonable being to draw any other reference from the materials before him than that the whole transaction was fraudulent and granted the relief prayed for.*

As the bailee for the hire of labor and services has a lien on the chattels on which his labor and services are performed, so a dentist may hold a set of artificial teeth made or repaired by him as security for his reasonable charges; this lien he will waive by parting with possession, or by entering into any contract inconsistent with its continuance, as, for instance, where he agrees to give credit for a stipulated time.†

To the partnership agreements which are formed between dentists the general law of partnership applies. No particular formality need be observed in the formation of a partnership; nor need the agreement be in writing.‡ In the absence of evidence to the contrary the presumption is that partners are to share equally both in the profits and losses. Partners are trustees and agents for one another; in the former capacity they must exercise good faith; in the latter, their general authority to bind a copartner is limited to acts incidental to carrying

* *Allen v. Davis*, 4 DeG. & Smale. 133.

† *Edwards On Bailments*, §§ 420-425.

‡ Participation in the profits of a business, as compensation for services, will not constitute a partnership.

on in the usual way the particular business in which the partnership is engaged. A partnership may be dissolved by mutual consent, or by the expiration of the time within which it was to continue; a wilful and continued neglect of business, immoral conduct materially affecting the business, gross misconduct in reference to partnership matters, or permanent physical incapacity are also grounds for dissolution. In *Morgan vs. Schuyler** is an instructive discussion as to the right to use the firm name after dissolution. The parties to this suit practiced dentistry under the firm name of "Morgan & Schuyler" in the City of Rochester. Having dissolved by mutual consent the defendant purchased certain partnership property, assumed the rent of and continued to occupy the rooms of the late firm. It was understood that the plaintiff was to open another office in the same city and this he did. After the dissolution the plaintiff caused his name to be removed from the sign containing the firm name; but the defendant replaced it as nearly as possible as before and then placed over the firm name on the sign the following: "B. F. Schuyler, Successor to," in letters so small and in such a way as to be nearly imperceptible. This action was brought to restrain the defendant from using the plaintiff's name on signs, circulars, or advertisements, or from declaring himself to be the successor of the late firm of Morgan & Schuyler. A judgment was directed granting the plaintiff the relief sought, and a reference was also directed to ascertain his damages. This judgment was sustained by the Court of Appeals. Judge Danforth in giving the opinion of that Court said: There was nothing in the former relations of the parties, or the express terms of the agreement of dissolution, which gave to either one the good will of the business theretofore conducted by them [under the firm name of "Morgan & Schuyler," nor was either in any way restrained from continuing the practice of his profession on his own account in any place. Yet the defendant became the equitable assignee of the unexpired term of the lease under which the firm held its place of business, and the sole owner of certain partnership property and fixtures. He thereby acquired an advantage over the plaintiff, for he had the exclusive right to occupy the rooms of the late firm, and as incident thereto, the benefit of that good will, which Lord Eldon defines, "as the probability that the old customers will resort to the old place." The extent of this depends partly on the force of habit, and in the case of such business as had been carried on by these parties in some degree on the satisfaction which the patient had received at the hands of one or the other member of the firm; but it is after all a very different thing from the good will which may be said to attach to the person of a professional man, as the result

* 79 N. Y. 490.

of confidence in his skill and ability. The first is of no value except to the occupant of the place, while the latter is inseparable from the person, and follows its possessor wherever he goes. So far as it belonged to the plaintiff, it could not have been transferred to the defendant; but the advantage secured to him, as the occupant of the old place of business, would doubtless have been rendered more valuable if the plaintiff had retired, not only from the firm, but from the practice of his art. This, however, he not only did not undertake to do; but it was understood by both parties at the time of dissolution that the plaintiff was at once to open an office, and carry on his business of dentistry, in the same city. This fact precludes the idea that the defendant acquired any good will in the business, except such as was incident to his sole ownership of the property, mentioned in the agreement. It is evident, therefore, that it was not the intention of the parties that the defendant should in the conduct of his business, in any manner use the plaintiff's name either in combination with his own, as "Morgan & Schuyler," or in subservience to it, by declaring himself "the successor" to that firm. It is not claimed that there is any express contract to that effect, and none can be implied, either from the language of the agreement actually made, or from any fact or circumstance connected with it. * * * * *

* * * * * Nor has the defendant any better right to declare himself the "successor" of the firm of "Morgan & Schuyler." In so doing he represents not only that the firm is extinguished, but that his co-member has quit, or retired from business. The latter therefore will lose the patronage to which he is entitled, for those persons who might otherwise resort to him for assistance will be misled into supposing that his services cannot be obtained. In either aspect the plaintiff's case was made out. It does not follow, however, that the defendant may not avail himself of the full value of his purchase, and to that end by signs and advertisements refresh the memory of those customers who had acquired a preference for the the particular locality in which he continues business, or recall to their attention the circumstance to which that performance might be due. He may lawfully describe the rooms as "formerly occupied by Morgan and Schuyler," and himself as "formerly" or "late" of that firm, by these or other phrases. He would thus state simply facts, belonging to his own life, or incident to the office, as much so as to the time or place of his birth, the name of his father, or instructor, the college from which he graduated, or the time when the premises were first used in the practice of his calling. All this might be done in good faith."

The relations of dentists to their assistants are, as a general rule, governed by the ordinary law of master and servant; but in all such

engagements the custom of the profession, unless excluded expressly or by implication, is admissible in evidence to explain or annex incidents to the contract: as, for instance, to prove that it may be put an end to by notice.

A dentist is liable on all contracts entered into by his assistant where he has given him express or implied authority to make such contracts; thus, where an assistant usually orders drugs on credit and the dentist usually pays for them, the dentist will be held liable to pay for any goods of a similar nature which the assistant may obtain on credit for his own use.* And he will also be held liable to an action for damages for an injury which his assistant, acting within the scope of his employment, does a patient through want of proper skill.† On the other hand, a dentist may recover for the services rendered by his assistant, and this even though the assistant has not fulfilled the statutory requirements.‡ An assistant, when he begins practice for himself, will not be allowed to imitate too closely the cards and signs of his former employer. The leading case on this point is *Colton vs. Thomas*; § in that case the facts were briefly as follows: The plaintiff purchased of Dr. Gardner T. Colton, of New York, the right to use the name "Colton Dental Association" in connection with the use of nitrous oxide gas to alleviate pain in the extraction of teeth, and commenced practice in the city of Philadelphia under the designation of the "Colton Dental Association." When the defendant, who had been in his employment, opened dental rooms for himself, he issued cards and put out signs very similar to those used by Dr. Colton, with the addition, however, of the words "formerly operator at" in very small and almost illegible letters. The court restrained the defendant from using the cards and signs complained against, on the ground that such use was a fraud upon the public; and it also restrained the employment by the defendant of any device by which the patients and the patrons of the plaintiff, without the exercise of excessive care, would be induced to suppose that the defendant's place of business was the place of business of the "Colton Dental Association."

Dentists often have occasion to make what in law are known as contracts in restraint of trade with partners or assistants on the determination of the relation between them. As a general rule, contracts in restraint of trade are void as against public policy; yet when the conditions prescribed are confined within certain limitations they are

* *Nickson vs. Brohan*, 10 Mod. 109.

† *Hancke vs. Hooper*, 7 C. & P. 81.

‡ *People vs. Monroe*, 4 Wend. 200.

§ 2 *Brews*, 308.

valid. The requisites which are essential to the validity of contracts of this nature are: first, that the restraint be partial; second, that it be reasonable; and, third, that there be a good consideration. In *Horner vs. Graves*,* the plaintiff, who was a surgeon-dentist, entered into a contract with the defendant, by which the former agreed to employ the latter, paying him for his services, for the term of five years; and, in addition thereto, that he would instruct him the profession of a surgeon-dentist. On the part of the defendant, it was agreed, among other things, that he would well and faithfully serve the plaintiff as his assistant, and that he would not, at the expiration or sooner determination of the said term of five years, provided the plaintiff was then living and practising his profession, practice as a surgeon-dentist at or within one hundred miles of the city of York, without the plaintiff's previous consent in writing, under a penalty of £1000. The defendant violated the latter term of agreement, and thereafter the plaintiff brought this suit to recover the penalty. Counsel for the defendant contended that this contract was void on the ground that the restraint was unreasonable and the consideration inadequate. On the question whether the restraint was reasonable or not, the court said: "We do not see how a better test can be applied to the question whether reasonable or not, than by considering whether the restraint is such only as to afford a fair protection to the interest of the party in the favor of whom it is given, and not so large as to interfere with the interests of the public. Whatever restraint is larger than the necessary protection of the party can be of no benefit to either; it can only be oppressive. And if oppressive, it is in the eyes of the law unreasonable. On the true inspection of this, it must strike the mind of any man that a circle round York traced with a radius of one hundred miles encloses a much larger space than can be necessary for the plaintiff's protection. The nature of the occupation, which is one that requires the personal presence of the practitioner and the patient together at the same place, shows that the plaintiff has shut out the defendant from a much wider field than can by any possibility be occupied beneficially by himself." On the question of the adequacy of consideration, the court further said: "It must be confessed it is very small compared with the restraint under which the defendant consents to place himself. * * * At the time of entering into this contract he was at liberty to set up his claim and endeavor to gain his livelihood in the city of York. But, under the present contract, after being employed by the plaintiff for three months only, and receiving in consequence no more than the sum of £30, he was liable to be prevented from carrying on his business and earning his livelihood within

* 1 Bing. 735.

the space comprehended within a circle drawn within a radius of one hundred miles from the city of York. Surely this appears a very slender and inadequate consideration for such a sacrifice." *Cook vs. Johnson** illustrates a valid contract in restraint of trade. Here the

* 47 Conn. 175.

defendant sold to the plaintiff his dental business, and agreed, for the sum of \$100, not to practice dentistry within a radius of ten miles from Litchfield. There was no limitation whatever in regard to the time during which the restraint was to continue; but, in the opinion of the court, such a limitation, under the circumstances, was not required; for the reason that there is a well settled distinction between a general restriction as to place and a general restriction as to time. The mere fact that the duration of the restriction as to time is indefinite or perpetual will not of itself avoid the contract, if it is limited as to place and is reasonable and proper in all other respects.—*New York Trans.*

BREVITY.

DR. T. B. WELCH: I received the "proof" of my article—all right: let it go, and publish it as you have changed it.

I want to give you my opinion of yourself in the way of cutting an article, and making it short. *It's A, No. 1.* I felt, that I had a condensed article, but it seems as though there was considerable foam after all, and you *just blew it off*, that's all right.

Truly Yours,

W. H. MILLER.

I have also a convenient test-tube holder, in combination with tweezers, which can be used with the same handle.

I have a little cup made by cutting in two parts a rubber ball, which is convenient for mixing a small amount of plaster. It is about two and one-half inches in diameter, and will avoid waste of material. The manufacture of such a small cup has been suggested, and I think will soon be on the market.

In giving clinical demonstrations of crown and bridge work, I have found it quite necessary to have a portable work table, which should be placed near the operating chair, thus saving time in fitting bands and crowns. In my office I have a permanent table equipped for this class of work, and find it an aid in making regulating appliances, changes in excavators and other instruments, supplying the place of the laboratory in a degree.

Each department in our practice should receive its share of attention, that we may be dentists in the fullest sense of the term.

LAZINESS grows on people: it begins in cobwebs and ends in iron chains.

FILLING TEETH WITH EXPOSED OR DEVITALIZED PULP.

DR. FRANK OVERHOLZER, LOGANPORT, IND.

Under this class of operations we contend with great obstacles, and on their results depend largely our success in dentistry, as by saving a tooth or root of this class we obviate the necessity of wearing a plate, and fulfil our highest mission—the saving the natural teeth.

The age of the patient is the greatest consideration, as in the young patient we find the pulp so near the surface that a small cavity may expose it.

Such pulps, when found in a healthy condition, are not usually difficult to preserve by the means of capping with some non-irritating cement, or gutta-percha, till a few years later there will be sufficient dentine deposited to protect the pulp, when a permanent filling may be introduced.

After the age of maturity the less risk we take on exposed or diseased pulps the fewer are the failures to follow. After the tooth has matured there is less use for the pulp, and the less recuperative power does it seem to possess. Hence a pulp that I might endeavor to save in the tooth of a child, I would destroy in the adult.

To remove at the proper time is far more advantageous than to experiment with a diseased and dying pulp, to the detriment of the surrounding parts and discoloration of the teeth before the mischief is discovered.

Though healthy pulps are sometimes sacrificed by the careless operator, there is probably more harm done by the operator who thinks it is his conscientious duty to save all the exposed pulps that come under his observation.

When a matured tooth that has ached is presented for filling and the cause is from exposure of the pulp, the safest course is to devitalize the pulp and fill from root to crown. The exceptions to the rule are too rare for consideration. Neither is pain a criterion, for some times teeth seem to flourish with a pulp protruding from its chamber, while other teeth seem to ache when the pulp is not exposed in the least. But, when a matured tooth has ached from exposure, it is rarely safe to attempt its preservation by saving the diseased pulp.

When the pulp is exposed and has never ached, it is often still more uncertain. The means of devitalizing the pulp by application of arsenious acid is almost universally used, and it is probably the most satisfactory of our present methods. In proceeding to devitalize a pulp in a diseased and aching condition, the first step should be to relieve the pain for from one to twelve hours before making the application of nerve paste, thus lessening the pain. The pulp should be well uncovered before making the application.

Sandarac varnish seems to be the most used to retain the paste in the cavity, but the temporary stopping of gutta-percha serves the purpose more satisfactory, and is less likely to be followed by soreness as it hermetically seals the cavity. From twelve to twenty-four hours is generally sufficient to devitalize the pulp when the application is in free contact with the tissues. A longer time is sometimes necessary, but not generally advantageous. The pulp should be removed before any soreness is felt at the root.

The thorough removal of the pulp is of great importance, and should not be attempted through a cramped opening. The tooth should be cut away sufficiently to give direct access to the pulp chamber. It is seldom necessary to enlarge the canal, but the access to the canal should be free and direct as possible. A good soft broach is the safest means of removal; however, the wooden point finds favor with many.

After the thorough removal of the pulp, as near as careful manipulation will permit, the root should be syringed freely with water, wiped out with peroxide of hydrogen, dried with hot air syringe, then freely saturated with oil of eucalyptus, dipt in powdered iodoform, dry the cavity once more with hot air syringe and fill root canals with cement or gutta-percha. The gold or amalgam can now be introduced.

Under the head of teeth in which the pulp is found devitalized, the main difference is in the septic condition present. The cavity should be well opened to insure good access to the canals, after which it can be thoroughly disinfected by the use of bichloride of mercury, 1 to 500; it disinfects without giving off an odor of its own, sometimes misleading in aromatic preparations. The peroxide of hydrogen is useful in the same relation. The cavity should then be well formed and the napkins or dam placed in position, dry thoroughly with hot air syringe, saturate cavity and canals with oil of eucalyptus dipt in powdered iodoform, dry once more with hot air syringe, and fill as in first class of root filling.

The hot air syringe as a disinfectant and germicide is second to nothing in this class of cavities. The gold or amalgam can then be introduced. The tooth has been placed in a healthy condition and Nature is almost certain to accord.—*Ohio Journal*.

Izaak Walton has well said: He that loses his conscience has nothing left that is worth keeping. Therefore, be sure you look to that. And in the next place look to your health; and if you have it praise God, and value it next to a good conscience; for health is the second blessing that we mortals are capable of, a blessing that money cannot buy; therefore, value it, and be thankful for it.

DECIDUOUS TEETH FILLED WITH OXYPHOSPHATE.

DR. J. A. ROBINSON, JACKSON, MICH.

Two years ago, I wrote my success in treating children's deciduous teeth with oxyphosphate, over exposed pulps that had been painful, instead of extracting them. I stated, at that time, that I filled the entire space between the proximal cavities without any separation. I want to report the practice a success, notwithstanding the doubts expressed by many good operators at our dental meetings, about living pulps under oxyphosphate caps. One of my patients was a little boy, three years old, with *every tooth decayed*. The child is now nearly seven years old, and some of the teeth have been filled over quite a number of times, as I do not spend much time in preparing the cavities; none of the teeth have been extracted, and they have not troubled him many times with aching. This boy is a delicate little fellow, with countenance as white as white paper, and teeth to correspond. I have observed, every time a filling has come out, that the cavity was lined with a leathery substance, much the color of sole-leather, and sometimes as dark as black decay. The three times I have refilled a tooth, the pulp was alive, but the pain was immediately stopt by covering it with oxyphosphate, mixed with carbolic acid first, then with a cap of oxyphosphate in the usual way. Last week I refilled the two lower molars, and on examination, I found both the pulps alive, one of them bleeding, though they had been capped more than three years. The teeth of children are more difficult to treat than teeth of adults.

For more than thirty years I have been capping exposed pulps, in all stages of inflammation, with gratifying results; more so than by destroying them with arsenic. A short time ago I had nine cases in my engagement book at one time that were unfinished for want of time. The best practice is to let the oxyphosphate become hard and solid before filling, if it is to be permanent, then fill the cavity in sections; first fill at the cervical wall, in proximate cavities, about half full before you remove the oxyphosphate from the outcome, then cut away and remove and fill and finish. If the cap moves, or is displaced, the dust may fall on the pulp and create inflammation. Where there is only periosteal inflammation, bathe in chloroform and your patient will be made happy in a few moments.

I do not believe that persons run away from their dentist as often as is suggested by some writers, who claim that seventy-five per cent of the pulps die, and the other twenty-five go to some other dentist; persons are not so fond of paying twice for the same operation, where the dentist is well established and friendly with his patients. Who is to decide whether the pulp is dead if it is never troublesome? And who is the gainer, but the dentist and the patient, if there is no dis-

turbance after the tooth is well filled? It is of immense importance to be right in so small a case that covers so large a territory. This is not saying the pulps are always saved, but it is saying the practice is generally successful and far in advance of destroying pulps with arsenic; first, because it saves time, and second, because it saves pain and elevates the profession in the minds of the community, and is more in harmony with conservative practice. Take off all occlusion with antagonizing teeth, if they are inflamed; they need rest as much as persons need rest if they are sick.—*Archives*.

COCAINE.

BY A. H. HILZIM, D. D. S., JACKSON, MISS.

Cocaine is a very powerful drug, and should under all circumstances be treated as such. It has been used in my practice almost daily since it was first suggested for the painless extraction of teeth. The first I purchased cost eighty-five cents per grain. I now buy it in sixty grain lots and make my own solutions with distilled water; always using a four per cent solution in a two per cent solution of carbolic acid.

My mode of mixing the drug is about as follows: Add two drops of carbolic acid (commercial strength) to one hundred drops of distilled water; shake the bottle till the two combine; the warmth of the hand or holding near the fire will facilitate the union. Add to this four grains of cocaine muriate; shake again till dissolved, and your solution is ready for use.

I believe in the German preparation of cocaine. I use that made by C. F. Boehringer & Son, of Mannheim, and find it much more effective and less often attended with unpleasant symptoms than the American preparations, and I have tried them all.

Now, as to the manner of applying the cocaine: With the left-hand fingers push the cheek and lips well away from the gums, and with the syringe in your right hand insert the needle beneath the mucous membrane of the gum (not of the cheek) and inject. To prevent the pain attending the use of the needle, the gum can be painted with a four per cent solution of cocaine without the carbolic acid, for about three minutes before inserting the needle.

Nitrate of amyl is the best restorative where unfavorable symptoms supervene. This, with cold applications to the head and face, and whisky or brandy, ten drop doses of ammonia aqua in water, given internally, sufficient to restore the normal functions.

The unfavorable symptoms: Nausea, hysteria, temporary paralysis of the limbs, lasting from fifteen to twenty minutes, dizziness, dyspnoea, partial syncope, accompanied by a cyanotic condition of

the hands and face, nervousness, desire to talk, etc. Of course, in most cases "everything is lovely," and there are no unpleasant symptoms whatever, and the patient goes away perfectly delighted at the idea of getting a tooth extracted with so little pain.

In the operation of crowning roots with live nerves, I find cocaine invaluable in removing the nerves. By injecting four drops into the gum, above the tooth, the nerve can be removed in many cases without any pain whatever, and the operation of crowning completed at the same sitting.

In a paper read by Dr. J. B. Mattison, of Brooklyn, before the King's County Medical Society, in February, 1887, after citing some fifty cases where alarming symptoms had appeared from the administration of cocaine, four of the cases having proved fatal, he concludes by summarizing as follows:

"Cocaine may be toxic, sometimes *deadly*, in large doses.

"It may be dangerous or even fatal in doses usually deemed safe.

"The danger, is greatest when given under the skin."

In another paper, read before the American Society for the Cure of Inebriates, November 8th, 1887, Dr. Mattison gives "the history of some forty cases, reported by English, French, German, Austrian, Russian and American authorities, to support the assertion that there is danger, near and remote, in the use of this drug on some patients. The amount of the drug used in these cases varied from a part of a grain to twenty-four grains, and was applied to the eye, ear, throat, larynx, teeth, gums, stomach, bowels, bladder, uterus, urethra, and under the skin." The alarming symptoms noted were: "Nausea, headache, deafness, blindness, loss of taste and smell; profuse sweats, lividity, and frequent, feeble, irregular, intermittent, unaccountable pulse; shallow, gasping, irregular, difficult breathing; gait, speech and swallowing greatly impaired; loss of motion and sensation in arms and legs, general numbness, intense restlessness, faintness, unconsciousness, convulsions, paralysis, delusions, delirium, and death." Conclusion: "There is a lethal dose of cocaine; this dose is uncertain. Toxic effect are not rare; this risk should induce caution. Antidotes should be at hand, there are; nitrate of amyl, aqua ammonia, brandy or whiskey, hypodermic morphia."

In the administration of most opiates and anesthetics, *temperament* is and can be usually taken as a guide as to the practicability of using the drug in question and as to its probable effect; but cocaine in the firmament of materia medica, is like the comet among the stars; it is such an erratic customer that you cannot predicate anything on former cases; the sanguine, the bilious, the melancholic, the lymphatic, the nervous, are effected happily, or the reverse.—*Archives*.

EXTRACTING FRAIL ROOTS.

There are roots so thoroughly decayed into a thin tube that any attempt to extract them with forceps or elevators results in a chipping off till a large amount of alveolar process is sacrificed, or the attempt at removal is abandoned. The upper central incisors stand first in the frequency in which this result is presented, tho any of the anterior teeth may at times be found in this condition. The screw illustrated on page 62 of the S. S. White catalogue for 1876 will very seldom if used alone remove one of these roots in a satisfactory manner. But if this screw is carefully and firmly inserted as far as it will go without splitting the root, and then a pair of bayonet-shaped, pod-beaked alveolar forceps, Parmley's pattern, is used to grasp the root far enough upward to inclose a portion of the root not entirely too weak to bear moderate pressure, it will be found that all will come away in a manner very gratifying to both patient and operator. It is true, this is practically the same operation as with the Hullihen Screw forceps. But few operators have the above pattern, partly perhaps because it is quoted at four dollars and fifty cents per pair, and is not very well calculated for use except when the screw is needed. The Dubb's Screw forceps, nickel plated, are quoted at six dollars per pair, while the bayonet-shaped forceps and screw will cost only about three dollars, and the latter forceps are as nearly indispensable as any that can be named for other operations. A plug of hard wood carefully fitted and driven into a root not directly accessible to the screw will save many embarrassing failures to extract at the first effort. The pod-beaked root forceps are not appreciated at their real value if we are to judge by what we see in dentists' cases all over the country. To those who have not had thorough experience with them I would say, try them.

Manatee, Fla.

W. E. DRISCOLL.

EDITOR ITEMS.—A few days ago I made a set of teeth for an ignorant low Dutch lady living in the country and sent it to her. She returned it. I found everything in as good shape as my skill could make it. She finally managed to say that Mrs. ——— had teeth what had meat on them. I had used plain teeth with pink rubber gum. For the lady referred to, I had used gum teeth.

H. M. VAWTER.

The price of Alluminum, owing to improvements in methods of extraction, has fallen within two years from twenty to four dollars per pound, and magnesium has fallen from forty to four dollars per pound.

Sticky Fly Paper.—Dr. J. A. Donaldson, of Greenville, Pa., says he invented the sticky fly paper, given in our November ITEMS, and recommends it as a first rate article.

CONTINUOUS GUM DENTURES.

DR. W. H. MILLER, CANTON, O.

Continuous gum dentures have at all times been regarded as the ideal style for the making of artificial teeth, as the only method which would at once fill the requirements of strength, adaptability, and capacity for producing artistic results. The only, or rather the great hindrance to the general use of continuous gum has been that it was impossible to make it so that it could be offered to our patients at a price that would compete with the cheaper plates of rubber with the sectional block teeth. The fact that little or nothing in the way of artistic taste could be displayed by the use of sectional block teeth, has not been denied, but has been asserted over and over again, and textbooks with one accord, place continuous gum work at the top of the list, all others being regarded as good only as they compare favorably with this style of work. Yet in spite of this fact, sectional block teeth and rubber plates, *because of their low price*, have practically pushed this *ideal* work from the field, have tended to drag mechanical dentistry to the low plane where it now is, and where little but of the "mechanical" is called for, or if called for, could be exercised. The operative department has been forging ahead and the gap between it and the mechanical has been ever widening, and to the discredit of the profession. A method which I am practicing and which has been and is successful, and which will tend to close the gap between the two departments of the profession, is as follows:

Make a die and counter-die of the gum portion of the model as far around as arch as may be necessary, to include bicuspid. Strike up a plan of platina wide enough to cover the gum and alveolar ridge, on this set up continuous gum teeth, back, solder, put on body and enamel in the usual way and fuse. You now have a block of the eight anterior teeth that are strong, just suit to the case, the contour and thickness of the gum is just right, and your teeth have just the arrangement that you chose to have, they are all that you as an artist have seen fit, or shown the ability to display. You have had no joints to grind, no "dark joints" to worry you. This block is now set on the model in the articulator, the remaining teeth set up, the plate waxed up, invested, packed with rubber, vulcanized and finished in the usual way. You now have an artificial denture that combines the *highest possible style of art at the lowest possible price*. You have something that will satisfy your patients and be a credit to yourself, and that you can offer to your patients at a price that will compete with the ordinary "store teeth."

The cost for the material entering into a plate made in this way is not materially greater than the expenses of the material entering into

the construction of a set of sectional block teeth on a rubber plate, while but little more labor is necessary.

When we see the result of this work and know when we take a case that its final result will be what we desire it shall be, and that it will not depend on the selection of something "that's good enough," it will stand criticism, and meet the requirements. Our own gratification in being able to meet the wants of our patient, and the knowledge that we are able to produce good results uniformly and at a low cost, will be so great, that having once adopted this plan we will not abandon it.

—*Ohio Journal.*

Filling Roots.—I have practiced dentistry for over twenty-five years and I have done some root filling in that time, and have always had this theory, that as soon as possible after the extirpation of the pulp, the canal should be filled, the air excluded and all foreign substances excluded. I have practiced it and I have experimented otherwise, and have always found that where I followed my practice of immediate filling, I had the greatest success. Then too my practice does not teach me to believe, as a matter of fact, that the statements made by doctors are always true. I believe I can produce a great many cases of teeth where the pulps have been extirpated, and the teeth filled within five minutes of the time of the exposure. I have been experimenting because I wish to know whether the statements that these men make are true or not; whether my own experience would carry that theory out, and I must say that those occasions where the pulp has been extirpated and the tooth filled immediately are less likely to cause soreness than from any kind of cases or operations.

—*Dr. Kulp.*

Expressing our Thoughts.—A difficulty experienced by most of us, even if we are unconscious of the defect, is the power of expression in language at once clear, brief, and comprehensive. Sailors, as a class, are peculiarly gifted in making themselves easily understood; and Admiral Hall, in his excellent book bearing on this subject, gives a characteristic instance of "Jack's" accomplishment in connection with dental matters. A sailor, wishing to have an aching tooth extracted, was asked by the operator as to the locality of the offender: "Oh," replied the patient, "it's the hindermost grinder aloft, on the starboard quarter."—*Dental Record, London.*

A La Trousers.—Bobby has been imparting to the minister the important and cheerful information that his father has got a new set of teeth: "Indeed, Bobby," replied the minister indulgently, "and what will he do with the old set?" "Oh, I suppose," replied Bobby, "they'll cut 'em down and make me wear 'em."—*Harper's Bazar.*

ALVEOLO-DENTAL PERIOSTEUM.

DR. F. SLATER, GUTHRIE CENTER, IOWA.

Alveolo-dental periosteum is a term applied to the membrane covering the roots of the teeth and lining the sockets of the alveolus, and is attached to the gums and perforated by the nerves and blood vessels that enter the apex of the tooth. It is also called peridental membrane and pericementum, terms that are interchangeable and synonymous. I give the preference to pericementum, as I think it the most expressive. It does not differ to any extent from the periosteum in general, but is differently situated, having bone on either side, while the periosteum has soft tissue on one side. Periosteum will reproduce bone, I think I hear some one say. Yes, and I believe that third dentition is a production of the pericementum, and is the result of the same physiological process.

The sense of touch to a tooth lies in the pericementum; the nerve or pulp of a tooth conveys impressions of pain only. The pericementum, unlike the pulp, is not subject to thermal change. There is one apparent exception to this statement, and that is when the pulp chamber is filled with gas, and heat applied to the tooth causes expansion of the gas, thus producing pressure on the soft tissues at the apex, and causing pain, while cold applied to the same tooth causes the gas to contract and thus relieve the pressure and lessen the pain.

After the pulp of a tooth is destroyed the tooth receives its sustenance through the pericementum and continues to do so for years, remaining in apparent health.

Many of the diseases that attack the pericementum are traceable to the gums, and when from any cause the pericementum becomes separated from the gums it is soon destroyed and the tooth is lost.

The pericementum can generally be restored to a healthy condition after many of the ills it is subject to have made considerable progress, and will even reunite after having been torn apart, as in the extraction or accidental dislodgment of a tooth. Most all dentists of to-day have had some experience in replanting teeth. The success of this operation depends on the reuniting of the pericementum. The same is true of transplanting, and when either operation is successfully performed, the teeth so treated cannot be distinguished from other teeth with root fillings, and remain so for many years, having the same mobility they possessed before removal. I cannot accept Dr. Younger's theory of the revitalization of the pericementum in implantation where a tooth has been out of the mouth for years. This to me is too much, and I would draw the line here. When the doctor says he has met with failures only where he has implanted teeth without their pericementum,

I accept his statement ; but I believe the only part the pericementum plays in implantation is similar to that of a sponge in sponge grafting. The plasma thrown out by freshly cut bone finds lodgement in the fibres of the pericementum of the implanted tooth and becomes ossified, and is thus held mechanically in its newly made socket ; as some express it, the tooth becomes anchylosed.

Dr. Harper tells us there is no mobility of an implanted tooth. If this be true it surely dispenses with the theory that there is a revitalization of the pericementum covering the root or lining the socket of an implanted tooth.—*Iowa Trans.*

The Old Amalgam War.—Dr. Morsman says: “Who can read the records of the so-called ‘amalgam war,’ without a pitying contempt for the pitiable, arrogant intolerance that refused to test this material, and denounced and dismissed from membership in the American Society of Dental Surgeons honest and earnest men, *unless* they would sign an agreement not to use the ‘stuff!’ And how that blush mantles when I read later on that some of the very men who were denouncing amalgam, or who held their tongues when they should have spoken in its defence, were slyly using it all the time, but did not think best to say so for fear of the influence it might exert upon the young men of the profession, if its use was encouraged.

“Shame on such scientific men as that! Let us have honesty above all things. We need ‘shoulder hitters,’—men who will back their opinions regardless of results. How often we hear that sentence even now, ‘for fear of the influence it might exert upon the young men.’ I am tired of it. What is the matter with our young men? If their eyes cannot bear the sunlight of truth, they had better put on goggles and quit scientific pursuits.”

English By the English.—We trust those members of our profession who attended the International Medical Congress held at Washington last year impressed our American brethren with more respectful appreciation of their oratorical performances than seems to have been the case in connection with a recent congress met to discuss the subject of cerebral and spinal surgery. Referring to English medical speakers, a correspondent of one of the American papers thus amusingly writes:—“While it has been a pleasure to hear our transatlantic brethren, one is forcibly reminded, in listening to their frequent audible and unconscious vocal expirations, which create innumerable divorces between all parts of the speech, of the reply—er—which—er—a—er—gentleman is—er—said to—er—have made when somebody—er—called his attention to the habit, he said: ‘To “er” is human, to forgive divine.’”—*Dental Record, England.*

DISINTEGRATION AT THE CERVICAL BORDER.

DR. L. P. BETHEL, TOLEDO, O.

Most failures of proximal fillings are caused by disintegration at the cervical border.

Among the more important causes for this imperfect preparation of cavities, imperfect manipulation of the filling material at the cervical wall, the injudicious use of the mallet, particularly the hand-mallet, and the imperfect finishing of fillings at this point. It cannot truthfully be denied that, if a frail wall is left at the cervical border, or any defective manipulation, it becomes a predisposing cause to the destructive influence of decay. Yet, with all proper care, we are often unable to satisfactorily explain the cause of disintegration.

From all accounts, more trouble of this kind has been experienced since amalgams and cohesive golds have been so generally adopted as filling materials, and this has led to the inquiry if attending circumstances may not be the cause of *absorption*.

These failures occur mostly where the decay has burrowed high on the tooth, and especially where the gum has receded. The cervical border is formed where the enamel is often thin and defective, or extends quite into the cement substance overlapping the enamel.

Dr. Black has stated that "much of the cement, especially about the necks of the teeth, when so stained as to show them clearly, seems almost as if made up of fibers." And also that "these are the principal fibers of the peridental membrane included in the cement in its growth, and furnish the means of making a firm hold of the peridental membrane on the root of the tooth. They are white, connective-tissue fibers, the ends of which are included in the matrix of the cement and in the most part calcified with it. They are in all respects like the residual fibers of bone and serve a similar purpose."

Cement is analogous to bone in composition and density. Dentine differs from cement, practically, in that it contains about five per cent more phosphate of lime, which renders it harder as well as reduces the proportion of organic substance. Enamel is much harder and denser than either, and thus less easily penetrated.

It seems to be difficult to get an amalgam that will not change its shape after insertion in the cavity. Of course manipulation has to do with this change. Most amalgams seem to either contract or expand, on hardening. As a result of contraction there is a pulling away of the material from the walls of the cavity, and though the breach be small, decay results. On the other hand, expansion of the amalgam must cause lateral pressure against the walls of the cavity, and this continued pressure may become an irritant.—*Ohio Dental Journal*.

ESSENTIAL OILS.

DR. A. W. HARLAN, CHICAGO.

From experiments, in the laboratory and in private practice, I conclude that the essential oils are valuable agents in dental practice. They are generally pleasant to the smell and taste, and are not irritating to the soft parts or destructive to them when accidentally brought in contact with them. The essential oils are generally absorbers of oxygen; they are volatile, and some of them (as peppermint, cajeput, caraway, mustard and turpentine) are very useful obtundents of sensitive dentine. Moreover, a few of these and others spoken of, are disinfectants; in the truest sense, destroyers of microbes and their spores. This has been proven in experiments conducted in Chicago. These oils are not miscible with water, hence when they are used as a root dressing they are not dissipated or contaminated by the saliva or mixt fluids of the mouth. They are capable of depositing vaporizable camphors that are powerful disinfectants. These camphors are soluble at a temperature below body heat. They are good menstrua for the iodine compounds, when it is desirable to use such compounds in local medication. If oily dressings are not tightly sealed in a pulp-chamber, they are not vitiated as all substances are which are soluble in water. This is important. If you will consider for a moment that the zinc preparation, carbolic acid, peroxide of hydrogen, bichloride of mercury, aluminum chloride, boracic acid, aseptol, resorcin, and nearly all of the coal tar derivatives are varieties soluble in water, you will see at once that oleaginous preparations, whether used as a dressing between the gums and roots of the teeth, or in the teeth themselves, whether alive or pulpless, possess this advantage over the former, in their sparing solubility under such circumstances. They may be allowed to remain for longer periods of time in roots of teeth when it is not possible to fill them at once for any reason. If an oily dressing is applied in a root in a tooth, after the removal of a pulp by heroic measures, or after its destruction by arsenic, it is a soother, an anodyne effect is produced, mephitic gasses do not form in their presence. They will slowly but certainly disinfect an infected root or the dentine of a tooth, and not injure or impair the efficiency of the cement or pericement. They may be pumped through roots and fistulous tracts with impunity, they will not clog delicate canals, and they may be combined in various ways to promote their efficiency or produce agreeable smelling and tasting compounds. Essential oils are more available in dental practice than is generally supposed. Let us study them more carefully.—*Dental Review*.

Hurry is the mark of a weak mind; dispatch, of a strong one.

POLISHING DEVICES.

Dr. F. A. Williamson says: Some simple devices, well tested in my own laboratory in polishing plates, may help others in both economy and convenience:

"In using sand-paper, if you have not the split mandrel, fit one of hard wood to the lathe, if practicable; instead of allowing a flapping free end, wind a piece of proper width on the mandrel a couple of folds, and cement the ends down with, say Spalding's glue, tie and lay aside a few for future use. A little of old rubber-dam, folded inside, will make the cylinder more pliable. For reaching an angle, and for rapid work, take an old cork, turn it to any desired shape on your lathe with a file, glove on a covering of sand-paper, and tie firmly in a place till dry.

"The cone of pumice-stone, which Prof. Harper brought to our attention, I think better for general use; but it is more satisfactory to me with a simple bushing which I gave it. After blocking it out with an old saw, and shaping with hatchet or chisel, I bore, with any convenient instrument, a perforation a little larger than the spindle to which it is to be fitted, wrap the end of the spindle with tissue paper moistened with some mucilage to a sufficient thickness to prevent the spindle reaching the end of the perforation, moisten the perforation with mucilage, and screw in place; when dried thoroughly, place and turn to desired shape with an old file, resting one end of it on lathe-bench. This, of course, means you are not to wet your cone in use, as I saw one really ingenious dentist do. Your pumice trimmings let fall from the file on a piece of paper; they will make a good cutting polish.

"For applying polishing powder, I have found nothing superior to wheels cut from the fragments of the heaviest machinery bands made of rubber and cloth. If the smaller size of these do not reach some spot, punch one out of sole leather, and place on the dental engine; while the accessible parts of a plate will be brought to a polish with a two and a half inch diameter wheel of the band material as if by magic. They need not cost any money; they preserve their shape, and last almost a life-time."—*Archives*.

For Dry Mouth.—Answer to W. H. Duffenbaches, in December ITEMS, page 560. Corbolized glycerine applied to the mouth three times a day prevents the mouth becoming dry. The formula is:

Carbolic Acidgtt. x.
Glycerine $\frac{3}{4}$ j.

M. Apply on palate or mouth with small brush three times a day.

—H. J. FISH, Hartford, Conn.

OXYPHOSPHATE OF ZINC.

DR. E. S. GAYLORD, NEW HAVEN, CONN.

Probably, everyone using oxyphosphate of zinc has observed that the portion remaining on the glass or porcelain slab, on which it has been mixt, adheres very closely; in fact, to remove it, considerable force must be exerted, and even then, small particle will adhere till water is forcibly applied. This fact attracted my attention, and for several months I have been testing it in practice with much satisfaction. In filling, after the cavity is prepared and thoroughly dried, with a small piece of bibulous paper, slightly moistened with the cement fluid, paint the entire surface of the cavity, just to moisten (do not flood it,) then proceed to insert filling in the usual manner. Filling to be removed, must be cut out with bur or drill, as it adheres perfectly. In cementing crowns, etch the surface of the gold, or other metal, with an ordinary excavator, bur, or any sharp instrument, and proceed as above, with a similar satisfactory result.—*Archives*.

LEFT-HANDEDNESS.

Dear Editor :—In looking over some old numbers of your journal, I have just read on article on “right-handed or left-handedness” which states: “It is certainly difficult to teach a child that is left-handed to be right-handed, or one that is right-handed to become left-handed; so difficult that it is generally impossible to entirely change the habit.” I must take exception to the later thoughts. When a child at school it was my habit to write with the left hand, but my teacher soon broke me of it, and now it would be impossible. Again, when I entered the office of my preceptor, I soon adopted the practice of using the left hand as much as possible, and now I operate with either hand with equal ease, which tho’ exceptional, I believe to be attainable by anyone.

E. J. TAYLOR.

[You are probably ambidexterous.—ED. ITEMS.]

“**Men** have fought and died for gold.” But for filling purposes, to save carious teeth, has gold, in comparison with amalgam, any feature of claim? We answer, one only. That is its preferable beauty; it is more esthetic.

But strip it of the chronic, idolatrous charm that it has held in all ages and among all peoples, and bring it down simply to the intrinsic value for what it is worth alone for filling and saving the teeth, and then behold! it has only the color that it can boast of to set forth. Really but one claim over amalgam while the latter has a dozen over it. And this claim is but mere glitter, one that is not indispensable. Well, we accept this one claim, however, as conducing to estheticism, and therefore to elevated and artistic practice.—DR. J. HARDMAN.

For Our Patients.

All nature is but art unknown to thee;
 All chance, direction which thou canst not see;
 All discord, harmony not understood;
 All partial evil, universal good.

GENERAL WASHINGTON'S TOOTH.

A tooth has a history, or, rather, it is an historical tooth. All the jewels contained in Tiffany's are not more zealously guarded and cared for than this tooth. The owner is Isaac J. Greenwood of 216 West Fourteenth Street. The tooth is an heirloom, and has been in the possession of his family for many years. How this tooth and this set of false teeth came into the gentleman's possession is briefly told in an abstract of a will executed January 27, 1863. It reads:

"I give and bequeath immediately on my decease, to my eldest son, Isaac John Greenwood, forever, all the curios, medals, medallions, snuff-boxes, *General Washington's last tooth*, and the under false jaw of teeth made for him by my late father, John Greenwood."

Mr. Greenwood died in 1865, and since that time the tooth and the false set of teeth have been in the possession of the present owner, who values them more highly than any of his other treasures. Mr. Greenwood showed it to an *Evening Sun* reporter yesterday. It was vastly different from the plates now offered patrons by the dentists of to-day. The specimen was originally used on the lower jaw. It was carved from a portion of a hippopotamus's tusk, and originally contained eight teeth. Only six were in place when the reporter examined it yesterday. The teeth set in the sea horse plate were not imitation ones, but human teeth. (Mr. Greenwood was of the opinion that they were teeth that General Washington had had extracted.) These teeth were set into the plate carved from a tusk of the hippopotamus, and fastened in position by rivets of gold.

At the time this set was made, General Washington had but one tooth left in his mouth, and this was located in the lower jaw on the left side. That particular tooth is what the dentists of those days designated as "a sinister bicuspid." It was firmly imbedded in the jaw, and the Father of His Country, loth to part with it, gave instructions to his dentist to make him a plate that would not interfere with it. The plate was made in 1789, and a hole sufficiently large was drilled through it to admit the tooth. He wore the false set for nearly six years.

They did not fit snugly, and the irritation which ensued finally compelled General Washington to have the last tooth in his head extracted. The tooth, together with another plate, he sent to Dentist

Greenwood, who was located at the corner of William and Beekman Streets, requesting that a complete set of false teeth be made for him. Dentist Greenwood wrote back inquiring if the tooth sent was the tooth he had previously made a cavity for. President Washington replied that it was, and added that it was the last tooth in his head. Dentist Greenwood made a new set of teeth, but placed an imitation one in the place of the "last tooth," which he preserved and treasured till the day of his death, which was in the year 1819.

Mr. Greenwood has also in his possession a well-preserved letter from General Washington to his grandfather in reference to services rendered by him. It hangs in the library, inclosed in a handsome frame, and reads as follows:

MT. VERNON, Jan. 6, 1799 —Sir: Your letter of 28th ult., with a parcel that accompanied it, came safe to hand, and I feel obliged by your attention to my request, and for the directions you have given me.

Enclosed you have bank notes for \$15, which I shall be glad to hear has got safe to your hands.

If you should remove to Connecticut I shall be glad to be advised of it, and to what place, as I shall always prefer your services to that of any other in the line of your present profession.

I am, sir, your very h'ble servant,

GO. WASHINGTON.

Mr. John Greenwood.

In another letter which is well preserved, General Washington wrote as follows:

I thank you very much for your obliging attention to my request. and I am, sir, with esteem and regard, Your very h'ble servant,

GO. WASHINGTON.

P. S.—I am willing and ready to pay whatever you may charge me.

As it will be seen from the above, the first President of the United States asked for no odds of the dentist he employed. He wanted satisfactory work done for him, and he was perfectly willing to pay for it.

Death From Chloroform.—A recent number of the *Illustrated Medical News* reports the following death from inhaling chloroform for toothache:—"An inquest was held last week at Penge on the body of Florence Jones, who died during the previous Sunday from inhaling camphorated chloroform. She had been in the habit of inhaling it from a handkerchief for toothache." This is the first time that we remember reading of a death from such a cause; and it should not only be a warning to chemists, who are too ready to supply the suffering public with drugs of their own recommendation, but also to dental surgeons, who are sometimes compelled to prescribe "home remedies" of a poisonous nature.—*Dental Record, England.*

GUM AND EYESIGHT.

A prominent physician—name not given—has been interviewed on the subject of chewing gum; and it seems that the pernicious habit is hurrying a great many of us to untimely and unwished-for graves. The penny cud of gum, it appears, partakes largely of the character of the well-known upas tree. To chew gum and climb a upas tree looking for vampires' nests are about equally hazardous.

The pursuit of happiness *via* the gum route produces chronic dyspepsia and wrinkles. The doctor merely mentions this in passing. These things are nothing. It also has a tendency to encourage the idle habits of a naturally too easy-going liver; but this is far from being the worst. It ruins the eyesight—that's what gum-chewing does. Says the doctor:

“The muscles of the jaw connect with the spine, and from the spine there are little fibrous tissues running in all directions. A number of these extend to the eyes and are called the optic nerves. Now, if you will watch a person eating you will notice a palpitation of the temples when the lower jaw moves up and down in the process of mastication. That is caused by the working of the optic nerves, which keep the inner part of the eye in motion and exercise the nerves as much as is needed to keep them in a healthy condition. These nerves are more tender and sensitive than you would imagine. When they are overworked they become shrunken and enfeebled, and then the process of deterioration in the eyesight begins. Of course the shrinking of the nerve draws the eye back in the socket, and as it is connected by slender threads of tissue to the pupil of the eye, this also becomes affected. The consequence is that the eye becomes weak and loses its color; it becomes as unnatural-looking gray, and the vision is so much impaired by it that eye-glasses must be resorted to.”

This is really considerably worse than a great many persons have supposed. Some of us had thought to toy with the gum habit and retain our eyesight. We had fondly supposed that we could chew spruce gum and, though our stomachs fell by the wayside and our livers contracted habits of idleness, that we could hope to keep our eyes. It seems, however, that the doctor has arranged it otherwise.

To persons unacquainted with man as constructed by this doctor the connection between a slight and gentle movement of the lower jaw and the permanent injury of the organs of sight is not apparent. But it is little that these persons know about how the muscles of the jaw run around to the back of the neck, where they are attached to the spinal column; how little fibrous tissues called optic nerves run from the spine to the eyes; how, when the jaw moves, from some unaccountable reason these optic nerves lead the eyes around for exercise, as we

may put it. Gum-chewers may have long had an idea that their optic nerves were sensitive to a degree, and some may have had a sufficient knowledge of anatomy to suspect that there was a close connection between the eye and the pupil of the eye, as the doctor intimates; but to learn that as the jaw is moved the eye declines will astonish many.

There is another trouble which we desire to speak of. It does not affect gum-chewers, but confines its attacks to some prominent physicians. The muscles of the arms connect with the spine. As has already been shown, the muscles of the lower jaw are attached to the same member. There are fibrous tissues running from the spine to the brain. Now, if you will watch a physician like our friend, you will notice that he is constantly holding a musty old medical work up before his eyes and reading; and if a reporter comes in he immediately begins to exercise his lower jaw; thereby overworking both the muscles of his arms and jaw. This causes the nerves extending from the spine to the region of common-sense to become excited, and the consequence is that part of the brain becomes weak, and its usefulness is so much impaired that the victim of the terrible habit finally becomes a crank on the subject of health. It is a sad state of affairs and growing more prevalent every day.

A brawney Irishman, fully three sheets to the wind, called upon a dentist to have a tooth extracted.

"Docthur," said he, "Barnee O'Flannigin towld me ef I took a wee drhop o' whiskee afore I had me tooth ute it wouldn't hurted me at awl; 'n do yaes think it a good remedee?"

"It might brace you up for the operation," replied the dentist with a smile.

"Will, thin, be jabers, oi'm riddy for it," articulated the Celt with delightful complacency, "but docthur, me boy, be as aisey as ye kin—that's a darlint."

Soon a yell, like an exploding bomb, rang out in the distance, and Pat's tooth abdicated.

"It's a divil ov a baste, docthur, wot sold me the whiskee, for it didn't sthop the pain mor'n so much howly water, 'n it's meeself as I'll sthop buy'n enny more o' Barnee O'Flannigin's whiskee, for its adoolterated sthuff it is, be gorra, 'n do yaes mind that."—*The Practical Dentist.*

For Sprains, Bruises, Rheumatism, Etc.—

Tincture wicth-hazel,	} qual parts.
" arnica,	
Sweet oil.	

This is a notabe linament.

Editorial.

WHAT CAUSES SENSITIVENESS OF DENTINE.

We are apt to think of dentine as a solid substance. It is in fact a labyrinth of spaces, made by the extremely thin walls of a multitude of tubes, pointing toward the pulp of the tooth. These walls are made of glutinous lime, and the tubes are filled with delicate nerve fibrils which are feelers sent out by the ganglion of nerve we call the pulp. But where ever there is a nerve there is an artery and a vein. Yet this three fold bundle is so small that it cannot be seen by the naked eye, and scarcely by the microscope. Even when enlarged by inflammation they appear only as indescribable small threads of beads. In fact, all tissues, even the muscles, are composed thus of minute dots of beads of the most delicate character, each string covered by a filament, itself of similar structure, only more closely wrought; so that what we call a muscle is a bundle of these minute fibers done up in a great multitude of bundles each thus bound to all, made strong by the power of aggregation. The delicate beaded fibers within these dental tubes are surrounded and intermixt with a fluid resembling water. This preserves the equilibrium of pressure.

The seeming proof that it is pressure on this fluid, which produces sensitiveness, is that if we thoroughly dry the walls of a dental cavity the sensitiveness is diminished. It is still farther diminished if, added to this dryness produced by heat, we still farther dehydrate and chill these fibers, or rather their exposed ends, with ether spray. The fiber being thus caused to shrink and shorten, the instrument that cuts the dentinal walls is not felt.

Thus hypersensitiveness is caused by a congested state of these dentinal fibers. Toothache is caused by a congested state of the pulp, or rather of the blood vessels in the pulp. That is, irritation causes the arteries and veins of the part to constrict, so that the normal supply of blood coming to the part through the arteries cannot be freely carried off through the veins. In the flesh this might cause only redness and a little pain, because the vessels could freely swell and anastomose, and thus relieve itself of the pressure from the blood; but the pulp is in unyielding walls, so that this pressure of obstructed blood causes pain; for all pain is caused by pressure on the nerves.

The Washington City Dental Society is a live organization. The following officers are for the ensuing year: President, Dr. R. H. Gunnell; Vice-President, Dr. Geo. B. Welch; Recording Secretary, Dr. H. B. Noble; Reporting Secretary, Dr. H. M. Schooley; Treasurer, Dr. R. B. Donaldson; Essayist, Dr. E. R. Rust.

THE OHIO COLLEGE OF DENTAL SURGERY.

This institution was chartered in 1844, and its first session held the following year.

To Dr. James Taylor must be given the credit of organizing. When Dr. Chapin A. Harris established the Baltimore College of Dental Surgery five years before, Dr. Taylor was invited to a chair in this institution by Professor Harris. Dr. Taylor "feeling that a school of dental surgery should be established in the West declined the flattering offer." It is interesting that the men who were instrumental in establishing the first schools of dentistry were in their early life friends and associates. Both Prof. Harris and Prof. Taylor studied medicine and dentistry with Dr. John Harris in Ross County, Ohio. Practicing in neighboring towns they frequently met and "had many protracted discussions on the importance of a thorough medico-dental education, and the best means of securing it." Their leading idea for some years was to have departments of dentistry attached to medical colleges. They concluded, however, that even without this adjunct the medical faculties had too much to teach, and they feared as Dr. Taylor said, that "By adopting this course a superficial knowledge of dental science only would be acquired. We regard our specialty as too large and important to be made an annex to medical colleges." "To Prof. Harris, certainly," says Dr. Taylor, "should be given the credit of making the first movement in the direction of establishing that system of instruction which can give character and stability to our profession." Thus it will be seen that the establishment of separate schools for teaching dentistry and conferring the special degree was originally an "Ohio idea."

At the organization of the Ohio College of Dental Surgery three professorships were established, and Prof. J. W. Cook chosen Dean. He was succeeded by Prof. M. Rodgers the next session. The third year Prof. James Taylor, who held the chair of Principles and Practice of Dentistry, was elected Dean. He continued to hold that place till 1857, when Prof. Geo. Watt was elected. He was succeeded by Prof. J. Taft. In 1878, the present Dean, Prof. H. A. Smith was elected.

Ten years after the organization of the college, property was purchased and the present college building erected by an incorporated association of dentists. The building has been improved from time to time, and during the whole period used exclusively for dental educational purposes. Following re-organization of the faculty in 1878 the college has known its greatest prosperity. The attendance has steadily increased, and for the present session the matriculates number 150. The whole number of graduates is 640. Among these may be found

the names of many who are known as distinguished practitioners, writers and teachers.

In 1865 the college conferred on Miss Lucy Hobbs the degree of D.D.S.—the first lady graduate in dentistry. In 1888 the college assumed in addition to its old name that of the Department of Dentistry of the University of Cincinnati, remaining, however, under its former management and in its present property.

BE THE EXCEPTION.

To be like everybody else is to be lost in the multitude. Better be known as a crank than have no identity. Dislike to be laughed at? Better that than be a fool. Strike out for something distinctive, and be the exception. This modesty that prevents our appearing in our distinctive individuality, this fear to be thought forward, this shrinking from notoriety, is the bane of many a splendid intellect, it is the destruction of many a noble prospect, and is the burying of usefulness, fortune and honor.

Be not only willing, but anxious to be the exception. Be so anxious, that every obstacle shall be brushed aside, that you may pass on to your coveted position; so anxious, that every hindrance of habit or association shall be sacrificed, that you may not be weighed down or weakened; so anxious, that every energy of mind and body shall be concentrated on winning that distinction which shall make you the exception in character, skill and success.

Finishing Amalgam Fillings.—Because amalgam fillings are "cheap," too little pains is taken in the preparation of the cavity, and insertion of the amalgam, and especially in its finish. In fact, many dentists do not polish amalgam fillings at all. The surface is thus left as rough as the soft amalgam makes it, so that food is lodged on its surface. The filling is, therefore, unsightly, and often over-lappings are the cause of decay; this is specially so at the cervical border.

The most precious of all possessions is power over ourselves: power to withstand trial, to bear suffering, to front danger; power over pleasure and pain, sorrow and disappointment, opposition and temptation; power to follow our convictions, however resisted by menace and scorn; the power of calm reliance 'mid scenes of darkness and storm; the power to triumph finally through all and over all and by the aid of all.

To give an early preference to honor above gain, when they stand in competition; to despise every advantage which cannot be attained without dishonest arts; to brook no meanness, stoop to no dissimulation, to know no compromises with evil—are the indications of a great mind and a pure heart, and the presages of future eminence and usefulness.

MODESTY IN TEACHING.

"Men must be taught as though you taught them not;
And things unknown proposed as things forgot."

Many teachers fail in their calling through pompous assumption and dictatorial arrogance. In their assumed dignity, instead of coming down to the sphere of their scholars, they speak from such a distance they are neither understood nor appreciated. The true teacher must sit beside the taught with the familiarity of a friend, using language that is familiar, and feeling a sympathy that shall win attention.

And teachers of larger classes through our periodicals and books could learn a little here. The masses of the professions are made up of those who have much to learn. Most of them realize this, and are hungry for knowledge; but they might as well read Greek as much that is written in English. The style, the substance and the use, are all foreign to their understanding and their needs.

O for writers of more familiar language, more practical thoughts, and more useful subjects; those who will deign to walk into our offices, chat at our chair, and demonstrate their knowledge by their skill.

By the study of the histology of the teeth, we shall see that the enamel organ is primarily developed from the columnar epithelium of the epidermic walls; that their nuclei develop the enamel rods, which, if perfectly formed, will make perfect enamel. In the calcification of these rods, the bioplasts (the nuclei of the cells) become calcified too, and constitute the nuclei of the rods, so that there can be no further growth of the enamel. These rods may be destroyed by caries, but can never be increased in size or changed in form, so that we never find secondary enamel; and this is the philosophy of it, the craftsmen are dead, and in dying erected the enamel as a monument to their memory.

In the dentine it is otherwise; the bioplasts are the dental germ that constructs the dental tubuli, from without inward maintaining open ways for further use in supporting vital action and keeping up repairs, and fortifying itself against disease, as it gradually thickens its walls and increases their solidity. If decay shall slowly disintegrate these walls, or abrasion shall diminish their thickness, the bioplasts build secondary dentine to thicken them for self-protection; and, under favorable circumstances, this is done even after the nerve has been exposed. But if the nerves, with vascular companions, are destroyed, there can never afterward be any such repair.

NEARLY ALL THINGS are granted to well-directed labor; nearly nothing is granted without it.

PROF. H. A. SMITH AND THE OHIO COLLEGE OF DENTAL SURGERY.

Prof. Smith, whose portrait embellishes this number of our magazine, is Dean of the Ohio College of Dental Surgery. That he is a man of mark is attested by his ten years' continuance in this office, by the large increase of matriculates since his appointment, and by the very fact of his succeeding such men as Profs. Taft, Watt and Taylor; for this position has been so jealously watched by those interested in the reputation of the school that none but the most prominent teachers and scholars have ever been allowed to occupy its principal chair.

In the chronology of this college, it is only five years behind the Baltimore, which is the oldest in the world; and in its career it has been abreast of that institution in all its departments. We presume even this praise will not be accepted by this Western nucleus of dental education as sufficient, for, from the first, it has been determined to lead in everything good, and to show its Eastern competitors that to be eminently progressive one must breathe the wonderful air of the mighty West.

Prof. Smith's immediate predecessor, Dr. J. Taft, established the first dental journal in the world, *The Dental Register of the West*, and it is still one of the best. Dr. Geo. Watt, another ex dean, established, and is still the editor of, *The Ohio State Journal of Dental Surgery*, and a right royal magazine it is.

The world over may be found its graduates, some of whom enjoy a world-wide reputation. Perhaps its admittance of Miss Hobbs in 1864, the first lady graduate in dentistry, was the boldest step in its history, and it has proved one of its greatest victories; for she has been one of its most conspicuous lights.

Temperance and Life Insurance.—The forty-seventh annual report of the United Kingdom Temperance and General Provident Institution of London, a life insurance company with a general and a temperance section, reports the mortality on whom life policies to have been as follows: viz., "expected claims in the temperance section, 282 for £67,547; the actual was for 219 for £66,600. In the general section 359 were expected for £82,275; the actual have been 363 for £82,705." It will be seen that there were 63 fewer deaths than were expected in the temperance section, and four more than were expected in the other.

The difference in the risks in this country is quite as great. *The National Benefit Society of the City of New York* gives remarkable preference to total abstainers. Write to Funk & Wagnalls, 10 Dey Street, New York, and satisfy yourself.—ED. ITEMS.

REPUTATION AND CHARACTER.

Reputation is what others think of us : character is what we are. Reputation is unreliable, because it depends on the caprices of public opinion, which to-day may applaud and to-morrow may curse for the same act: character is built largely on purposes and activities, and a mental and moral status that have become habitual, and, therefore, not easily subject to surrounding influences. Reputation is like a wolf trained to obey your orders ; it may serve you for a time, but may at any time turn against your best interests, and prove your destruction : character is like stock in trade; the more of it a man has, the greater his facilities for making additions to it. Therefore if you are depending on reputation to carry you to the accomplishment of your ambition, or even to give you present substantial comfort, it is liable at any time to fail you ; if character is your dependence, your carriage and the road you travel, are of your own make, so that you are generally the arbitrator of your own destiny.

Our Alphabet.—At the late meeting of the American Institute of Instruction, its President, Prof. Hall, said : “The time must come when we should have a full alphabet—one with a character to represent each of the elementary sounds of our language.”

Of course, our alphabet is better than when it had only twelve letters, or, at a later period, when it had sixteen. But we well remember that, even so short a time ago as when we were in childhood, *v* and *u* were sadly mixt ; some persisted we had no use for *v*. In looking into some of the dictionaries and spelling-books of those days, it is laughable to see how difficult it was to know what to do with each of these letters ; and even now we have old gentlemen of intelligence tell us of the weil they ate in those days, and the winegar they made from grapes growing on their wines. There was a similar difficulty with *i*, *j* and *g*.

As our language is assuming such accuracy and richness, in every other respect, it is a shame to have it still clothed in the swaddling cloths of a baby, and made to hobble along bow-legged, as though its unmentionables were still pinned between walking its sticks. It is a disgrace. Our alphabet should assume the dignity, precision and grace of the maturity of the language it represents. Then each of its forty-two elementary sounds would be represented by a distinct character, so that we should not have to make all manner of inconsistent combinations of letters to represent a single sound. Then our children would not be obliged to spend half their developing years to master its orthography, and, even after such study, often write with uncertainty. Then, too, it could be so easily learned by foreigners, that it would speedily become the language of the civilized world, and missionaries would civilize and Christianize the heathen in half the time now required.

Miscellaneous.

To Prevent Feet Sweating and Swelling.—In the German army the soldiers are furnished with a powder called *Fuszsreupulver*, foot powder, which they are instructed to sift inside and outside their socks, and the use of which effectually prevents sore feet by keeping them dry and free from chafes. Those classes who are constantly on their feet should make a note of this. The powder consists of three parts salicylic acid, ten parts of starch, and eighty-seven parts finely powdered soapstone.—*American Druggist*.

Freckles.—The physician is frequently asked by lady patients for something that will remove "moth" and freckles. A writer in *Pharm. Zeit.* says that a wash, consisting of equal parts of lactic acid and glycerine, will do the work, and is harmless when applied to the skin.—*Jacobi, in Archives of Pediatrics*.

Removing Indelible Ink.—Physicians are often asked how to remove indelible ink, and they sometimes cannot quite remember; so we repeat the following method: First moisten the stain with tincture of iodine, and after a few minutes, remove the iodine stain with solution of hyposulphite of soda. Finally wash in clean water. Repeat if necessary.—*Exchange*.

Antipyrin we have used with happy results in headache. It leaves no bad after-effect. Patients will often get out of the operating-chair with severe headache, which is relieved quickly by a 4 to 6 grain dose. The drug is one of the numerous productions from coal tar, the possibilities of which seem limitless. Before long we will have quinine or its equivalent from the same source.—*Southern Dental Journal*.

Genius Unexerted is no more genius than a bushel of acorns is a forest of oaks. There may be epics in men's brains, just as there are oaks in acorns, but the tree and the book must come out before we can measure them. We very naturally recall here that class of grumblers and wishers who spend their time in longing to be higher than they are, while they should be employed in advancing, themselves. How many men would fain go to bed dunces, and wake up Solomons! You reap what you have sown. Those who sow dunce seed, vice seed, laziness seed, usually get a crop. They that sow wind, reap a whirlwind. A man of mere "capacity undeveloped" is only an organized day-dream, with a skin on it. A flint and a genius that will not strike fire are no better than wet junkwood.—*Ralph Waldo Emerson in Western Journal*.

Dr. Patrick says: "There are positive facts in every science that medicine is built on, but medicine itself is not a science; it is only theory and practice. If teachers would confine themselves to facts, there are demonstrated facts enough in every department that the colleges teach to occupy four times the time that is given to dental college education."

If Dr. Patrick were not one of the most erudite and scholarly men in the profession, we should be inclined to smile; but we think that if ever Dr. Patrick were to attempt to tabulate the facts he knows in any one department of dentistry, he would have no difficulty in telling them all, with time to spare, in two winter sessions of six months each, which is the time given by most of our dental colleges.—*Western Journal*.

Cohesive Gold.—"I object to the proposition that cohesive foil is the best foil for students to begin with, because they have to use the mallet, and consequently do not learn that delicate touch that is required in adapting the gold to the walls of the cavity, which is acquired by hand-pressure and soft foil. The method I pursue and teach my students is to first line the cavity with soft foil and work it into position by hand pressure. Then to finish with cohesive pellets. I think by this method better results may be obtained than by any other. Another objection to cohesive foil, in the hands of students, is found in the liability of the gold to ball because of its hardness. If fillings are taken out, it will be discovered that this has occurred around the edges, where little inequalities reveal that the gold has bridged in places.—*Dr. C. N. Peirce, in Independent Practitioner*.

Electrical Patents.—The number of applications for patents on electrical appliances is phenomenal. During one week seventy-three patents were issued from the Patent Office. Fourteen relate to instruments and devices of measurement and testing, two to telegraphy, two to the telephone, three directly to the motor, four directly to the galvanic battery, four directly to the secondary battery, one to a thermoelectric generator, twenty six to dynamos and electric light apparatus and the transmission and distribution of electricity for purposes of light and power, and seventeen to miscellaneous applications. Among those relating to electric light apparatus are quite a number covering a whole alternating current system.—*Scientific American*.

To Cure Black Heads.—A cure depends much on the care of the general health. The latest formula is as follows:

Take of	
Sulphuric ether.....	1 troy ounce.
Carbonate of ammonium	1 troy ounce.
Boric acid,	
Water to make	2 troy ounces.
Mix.	

Sweating of the Feet.—Dr. Legoux uses a mixture of glycerine two and one-half drachms, solution of perchloride of iron one ounce, and essence of bergamont twenty drops, in the treatment of bromidrosis of the feet. The feet are bathed frequently in cold water for two days, and, on the third day, are painted with this mixture. The painful sense of heat gives way to a feeling of refreshing coolness, the moisture becomes less apparent, and with it disappears also the disagreeable odor. The applications are to be continued night and morning. The author obtained by this means, in two weeks, the cure of a case, which had resisted all other treatment.—*Gazette Med. Paris*.